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Optimization of a Small Business's Sustainability Using Life-cycle Analysis Software and Benefit Corporation Assessment Tools

Zachary Paul Angelini

University of New Hampshire - Main Campus

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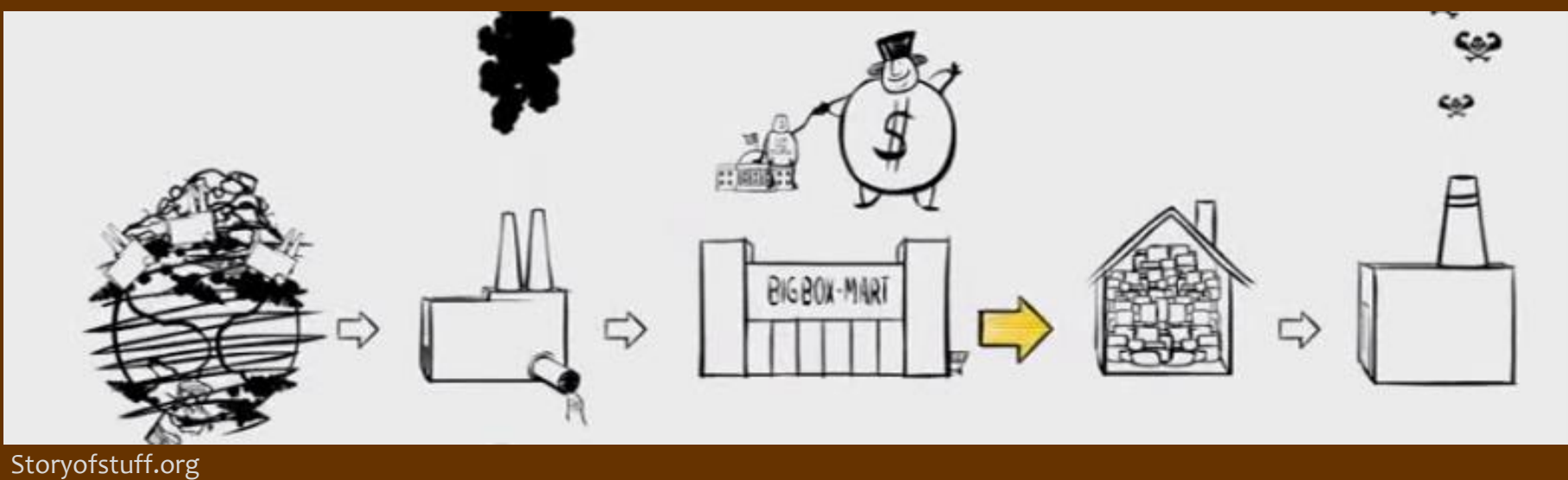
Optimization of a Small Business's Sustainability



By: Zachary Angelini
Technical Advisor: Dr. Kevin Gardner

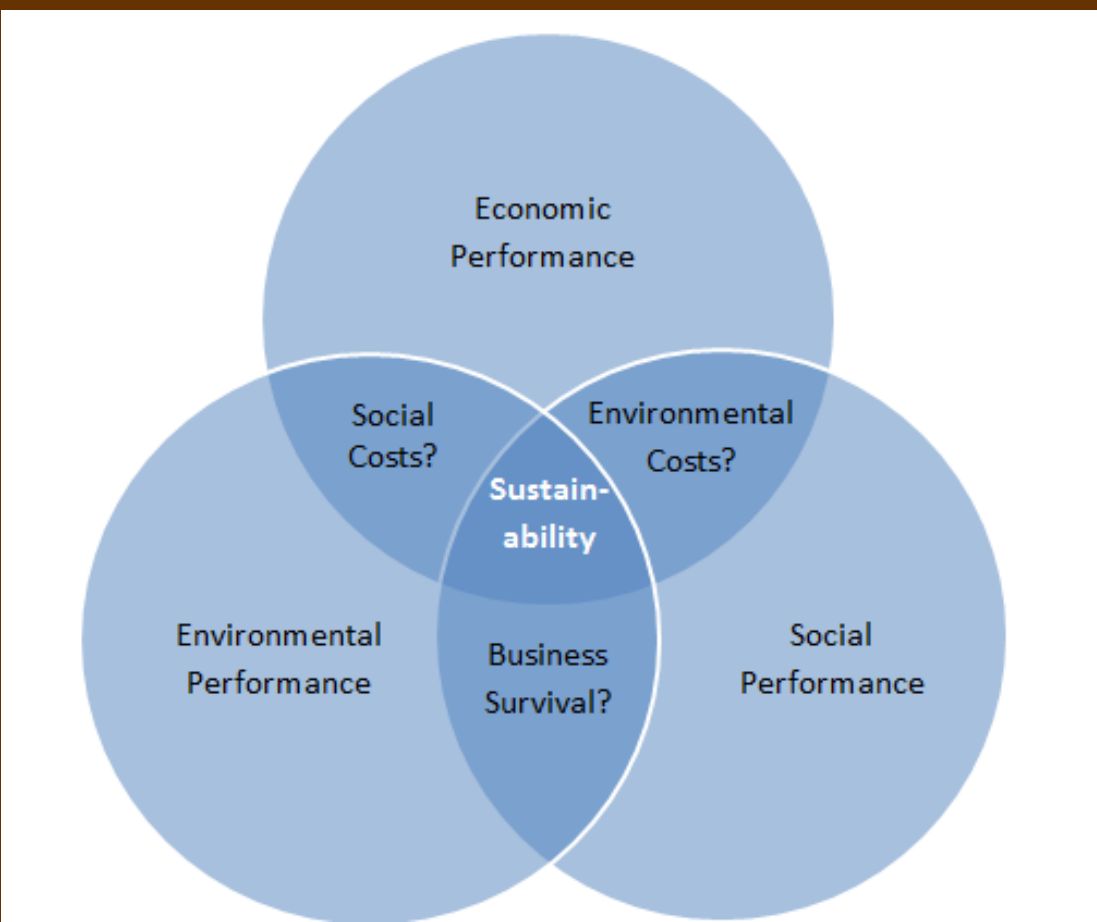
The Problem

- The average person in the US consumes twice as much as they did 50 years ago
- 99% of the materials we harvest, mine, process, transport, and consume become waste within six months. Why? →Planned obsolescence, perceived obsolescence, and inefficient/wasteful manufacturing processes
- True costs of products are externalized
- Current legal and economic structure forces public companies to maximize short term profits at the expense of the environment, society, and even the long term sustainability of the business itself

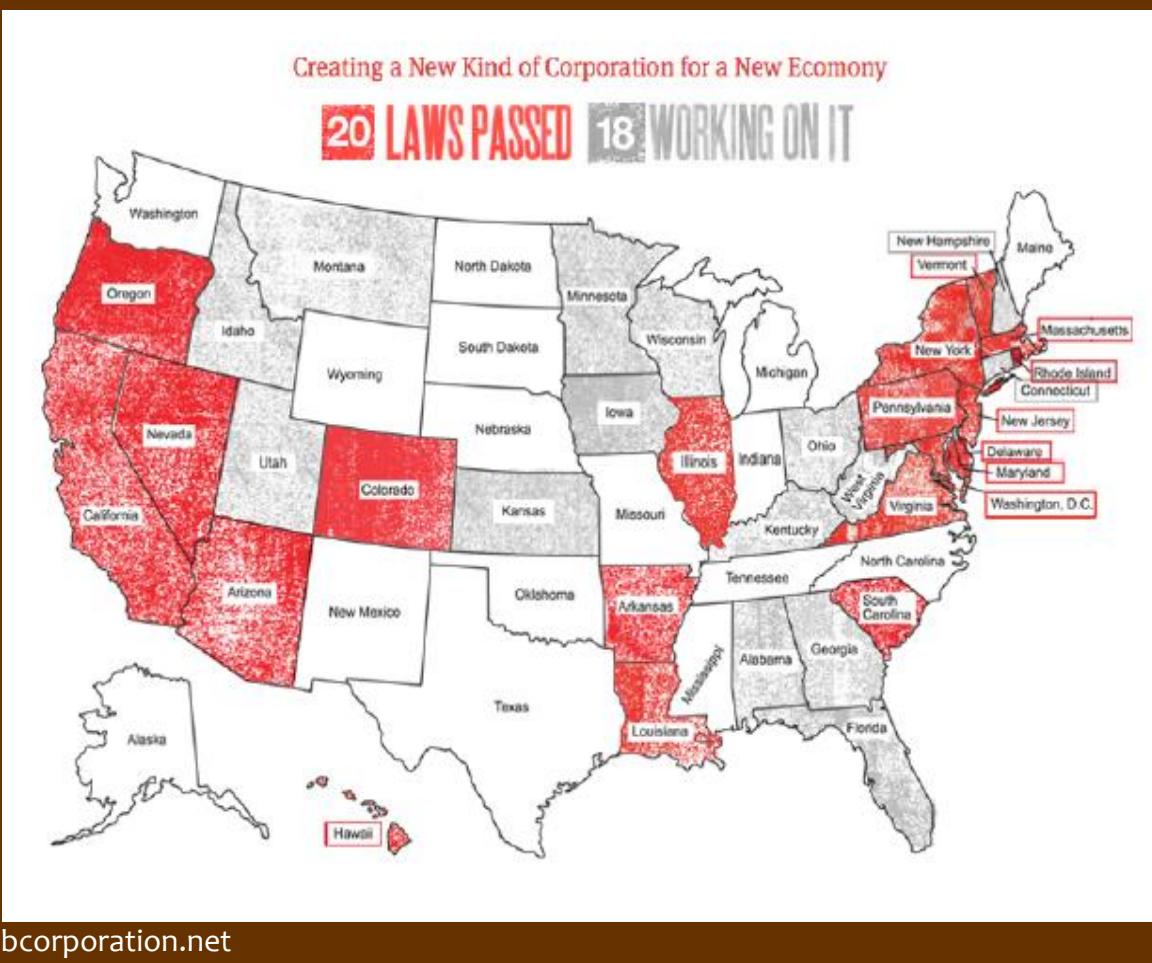


Solution: Benefit Corporations

B-Corp Certification



Benefit Corporation Legislation



Case Study: American Bench Craft

American Bench Craft is a New England based company that makes quality handcrafted leather goods. They have a very specific mission that is achieved with simple innovative designs.

Mission: Quality & Durability - Simple products are more durable. Less parts equals less susceptibility to failure. Simple designs and premium materials make these products built to last.

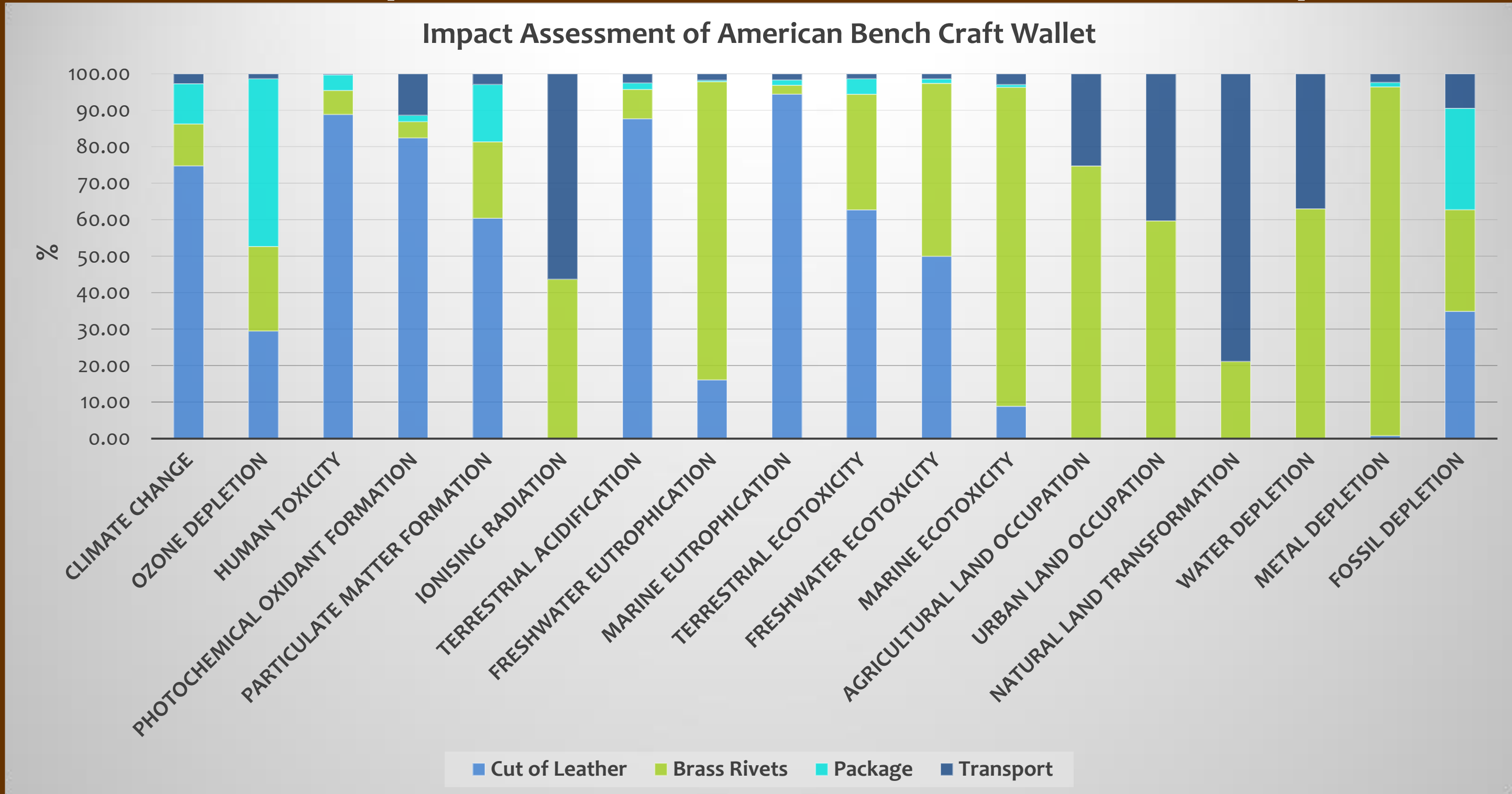
Mission: American Jobs -The simple design concept allows for local manufacturing in the USA, using chronically underemployed populations.→ creating American jobs where they are needed the most.

Mission: Environmental Sustainability - The lasting durability of these products minimizes waste, and the simple, consolidated manufacturing process reduces the carbon footprint.

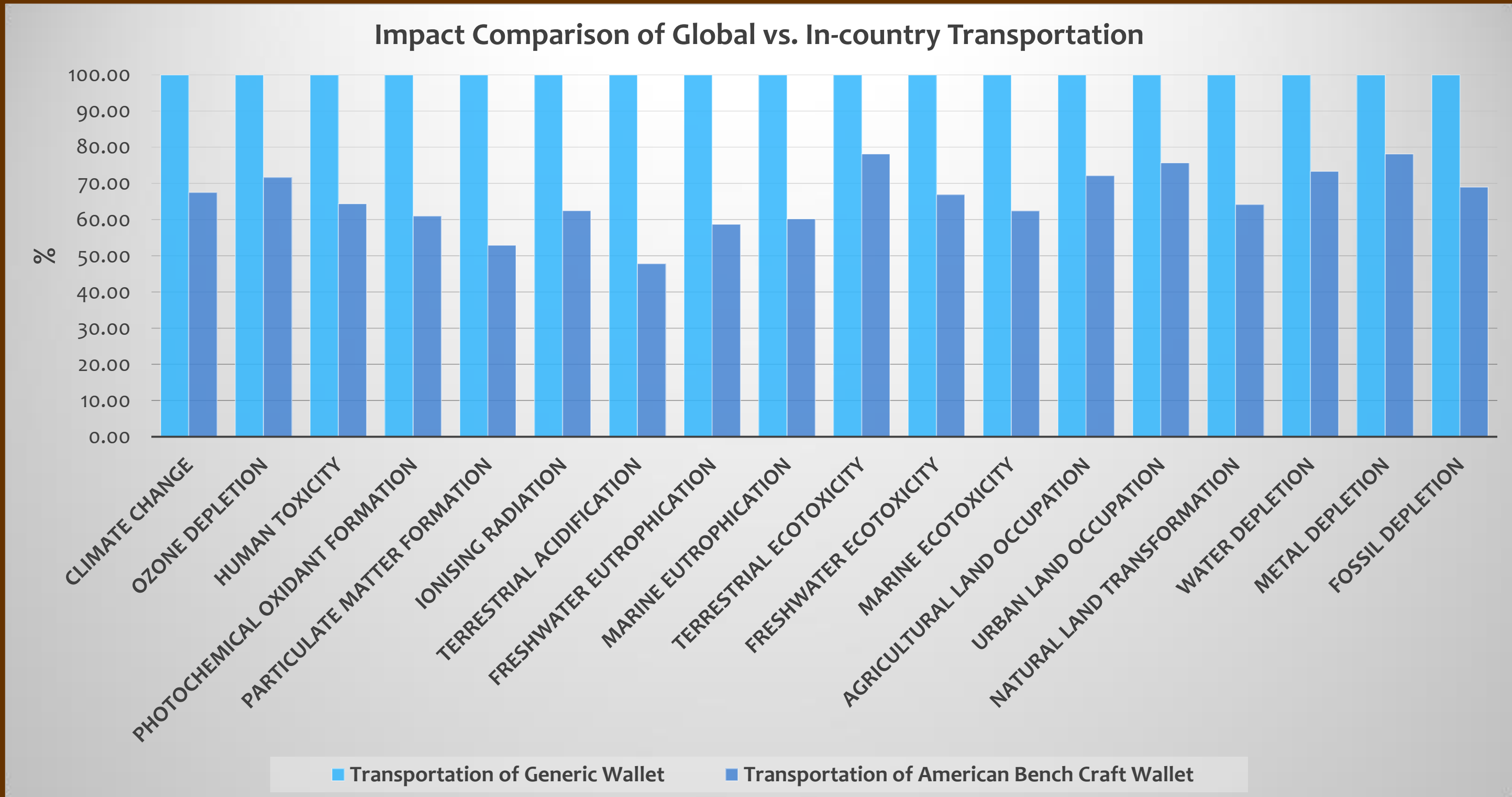


Life-cycle Analyses using SimaPro™

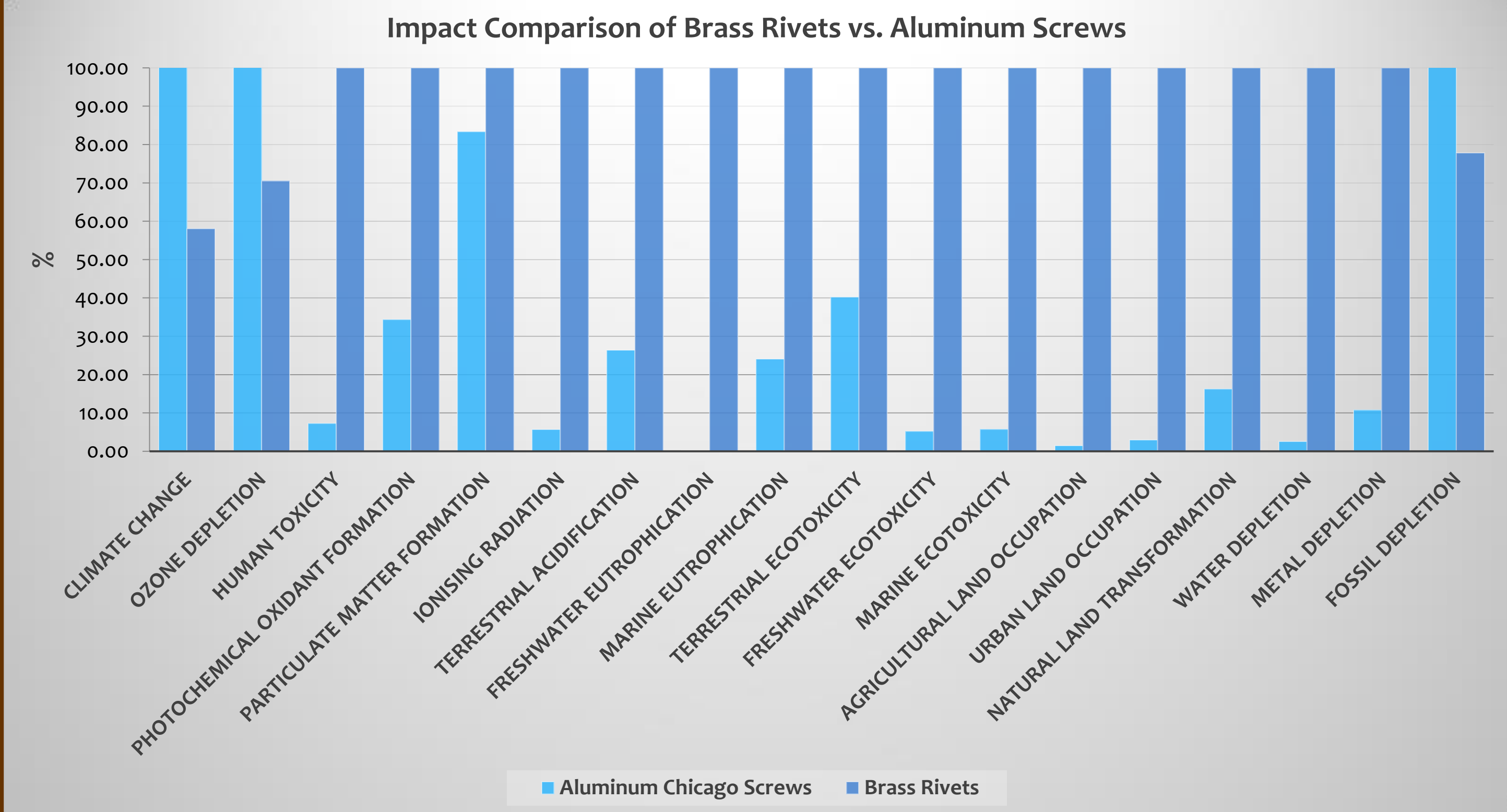
Environmental Impacts of American Bench Craft Wallet Components



Transportation Options



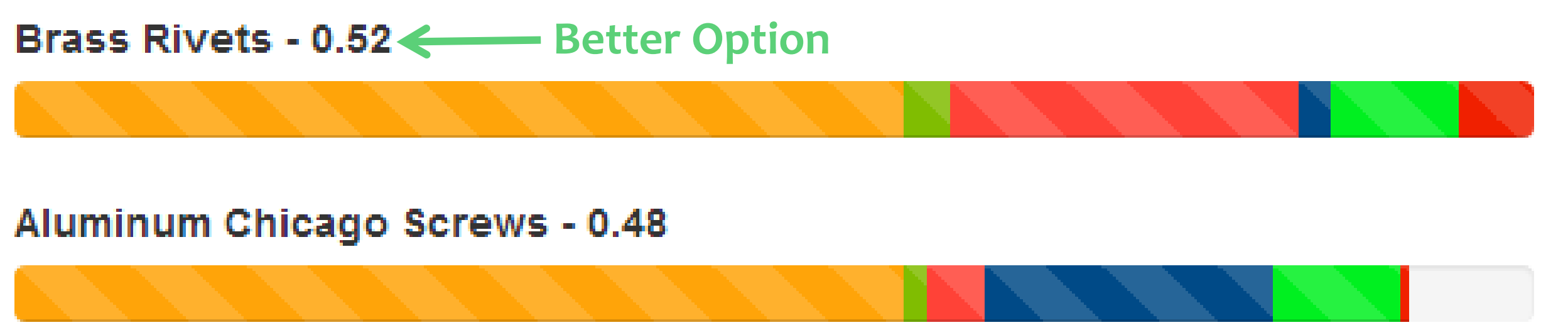
Metal Fastener Options



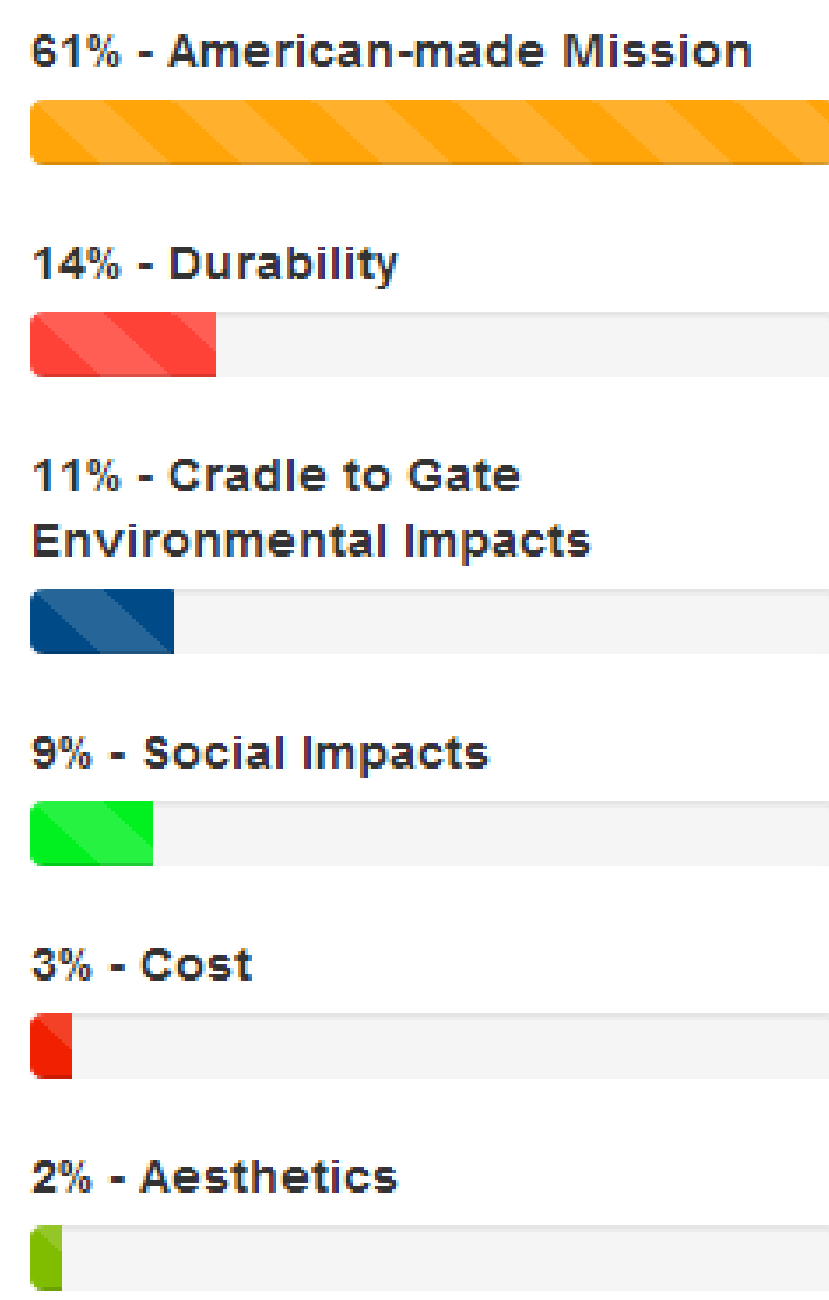
Decisions and Trade-offs: Analytical Hierarchy Process

Metal Fastener Choice

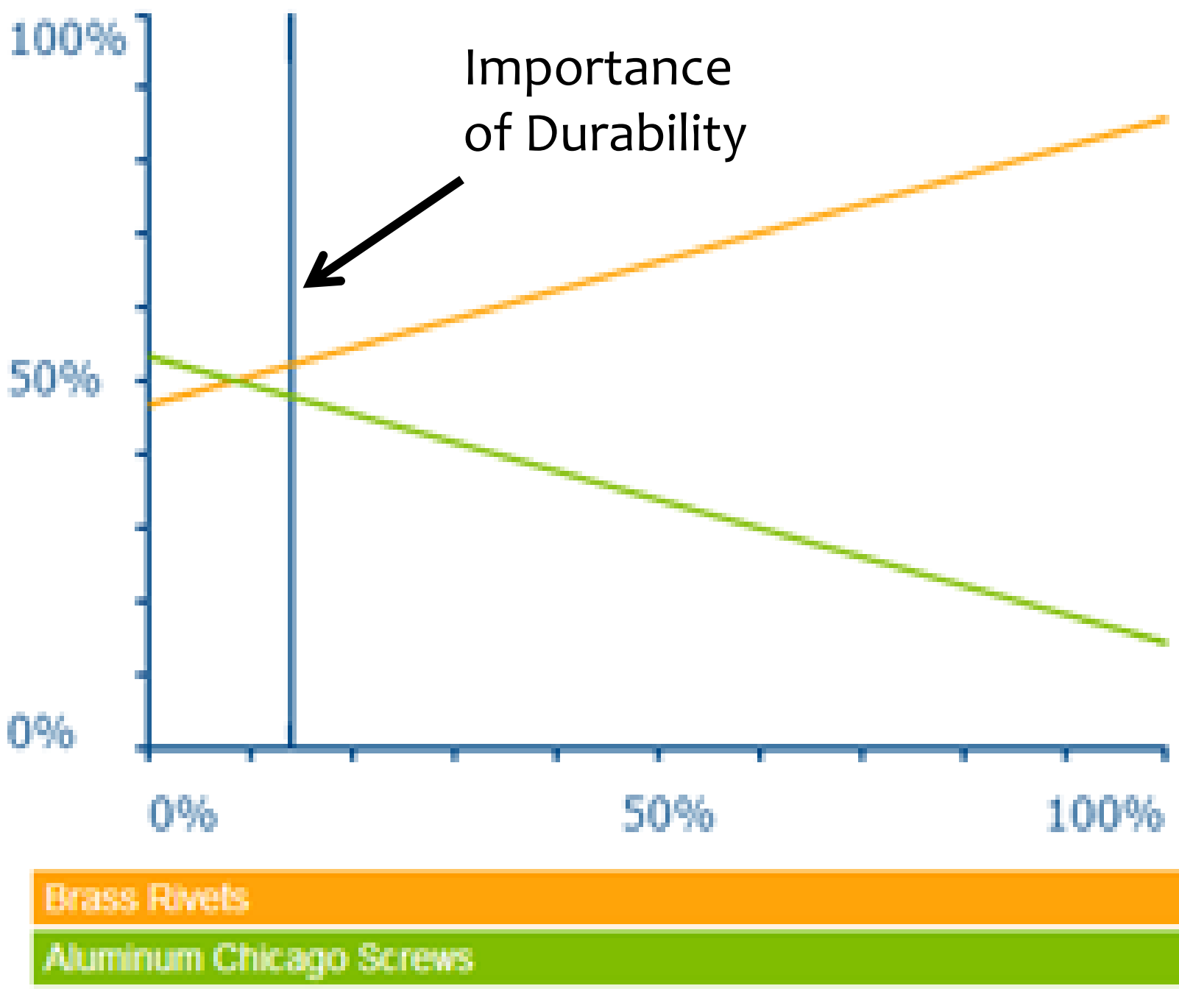
Alternatives Ranking



Criteria Priorities

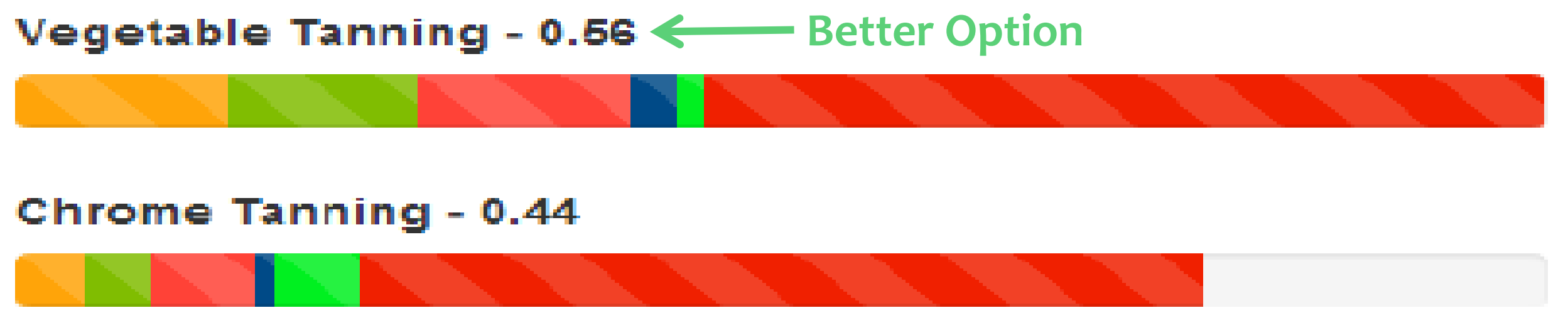


Sensitivity Analysis

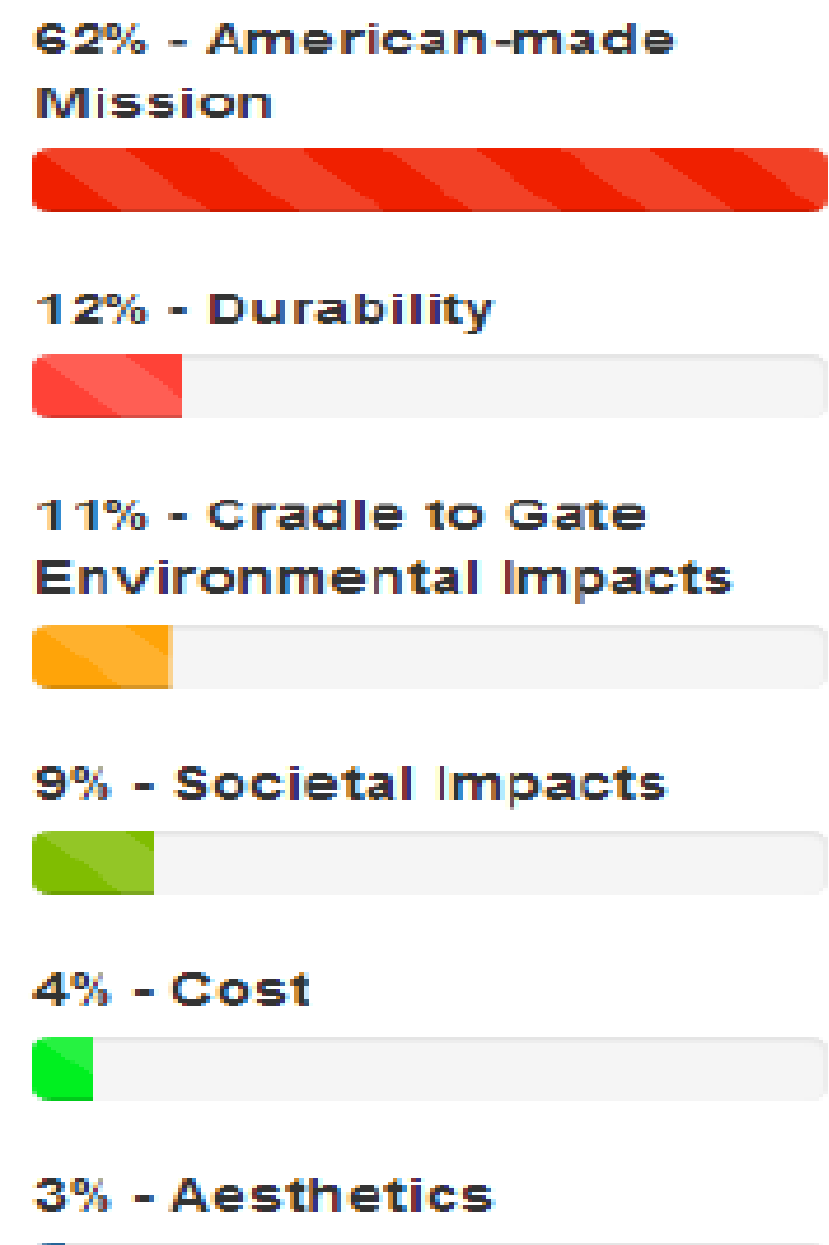


Leather Choice

Alternatives Ranking



Criteria Priorities



Sensitivity Analysis

